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09/822,164	03/30/2001	Naveen Kumar	P5546 US	6290

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EXAMINER

RUTTEN, JAMES D

ART UNIT	PAPER NUMBER
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2192

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	04/19/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary

Application No.

09/822,164

Applicant(s)

KUMAR, NAVEEN

Examiner

J. Derek Rutten

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 22 January 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-30 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-30 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. This action is in response to Applicant's submission filed 1/22/07, responding to the 12/14/06 Office action which detailed the rejection of claims 1-30. Claims 1, 11, and 21 have been amended. Claims 1-30 remain pending in the application and have been fully considered by the examiner.

Response to Arguments

2. In the response filed 1/22/07 (see pages 10 and 11), Applicant essentially argues that the prior art of record does not teach "automatically generating a resource type and wrapping an application with the resource type to make it scalable or highly available" (1/22/07, page 11). This argument is not persuasive, since prior art of record "Sun Cluster 2.2 API Developer's Guide" by Sun Microsystems, Inc. discloses generating resource types and wrapping applications in such resource types to make it scalable or highly available. See page 1-1, section 1.1, paragraph 1 as cited at the bottom of page 3 of the 12/14/06 action; also see section 1.3 on page 1-3 for a discussion of highly available applications. Also see section 2.2.2 at the end of the example as it appears at the top of page 2-5:

```
pmfadm -c hainnamed -n 4 -t 60 /usr/sbin/in.named -b named.boot
```

This line shows that the in.named application is wrapped in the start_net method for the failover, i.e. highly available resource type. While not expressly disclosing *automatic* generation, this is taught by Richburg as pointed out at the top of page 4 of the 12/14/06 action. Therefore, Applicant's arguments are not persuasive.

Applicant further argues that the prior art does not teach “determining if an application is capable of being wrapped in a resource type.” However, this is the subject matter of Sun Cluster 2.2 section 1.4 on pages 1-5 to 1-8, e.g. “Data Service Requirements.” Therefore, Applicant’s arguments are not persuasive.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 1-5, 7-15, 17-25, and 27-30 are rejected under 35 U.S.C. 103(a) as being unpatentable over prior art of record “Sun Cluster 2.2 API Developer's Guide” by Sun Microsystems, Inc. (hereinafter referred to as “Sun Cluster 2.2”) in view of prior art of record U.S. Patent 5,159,687 to Richburg (hereinafter “Richburg”) in view of U.S. Patent 5,996,086 to Delaney et al. (hereinafter “Delaney”).

As per claim 1, Sun Cluster 2.2 discloses:

A method See page 1-2 Section 1.2 paragraph 2:

The remainder of this section describes the three basic methods required to make any data service run in the Sun Cluster environment.

comprising:

a. accepting user specified characteristics of said application and said clustered

computer system See page 1-3, Section 1.3.1, paragraph 1:

You must decide whether your **data service** will keep its data in just one or in multiple logical hosts.

b. determining if said application can be wrapped in said resource type; See section 1.4 on pages 1-5 to 1-8, e.g. "requirements that a data service must meet..."

c. ...a user-supplied selection of a programming language; See page 1-1, Section 1-1:

This enables you to code in a scripting language such as the Bourne shell (sh(1)), if you choose.

d. ...generating a code in the user-supplied selected programming language for at least one resource type based on at least one of said input user specified characteristics
See page 1-1, Section 1.1, paragraph 1:

This enables you to **code** in a scripting language such as the Bourne shell

e. wrapping said application in the at least on resource type; see section 2.2.2 at the end of the example as it appears at the top of page 2-5:

```
pmfadm -c hainnamed -n 4 -t 60 /usr/sbin/in.named -b named.boot
```

This line shows that the in.named application is wrapped in the `start_net` method for the failover, i.e. highly available resource type.

f. installing said generated code of said at least one resource type and said application on at least one node of said clustered computer system See page 1-2 Section 1.2 paragraph 2:

At this point, the data service's **software** must be restarted on the surviving host."

In order to be restarted on a host, the code must have been installed on that host.

g. ...generating a configuration file separate from the code, wherein the configuration file stores user-supplied configuration information which allows the

generated code to be configured after it is installed. Page 2-2 of Sun Cluster 2.2 (second paragraph in section 2.2) teaches that a configuration file is used to customize a clustered computing system:

An administrator can place the boot file (pointed to by the -b flag argument) on any arbitrary file system in the diskset, depending on which file system has space. However, the HA-in.named method implementations need a specific starting point from which to find the boot file. The sample application places this starting point in the administrative file system under the hainnamed subdirectory. It is placed in the **hainnamed.config configuration file**, which contains a single directory name that indicates a directory elsewhere in the logical host's multihosted disk. This is where the data actually resides (it is a level of indirection).

It is noted that the generation of the configuration file is inherent. If the configuration file was not generated, it could not exist to refer to, and the system would fail. Using the configuration file, the code can be configured to find needed files after installation.

h. ...generating ... utility [programs], wherein the ... utility [programs] enable starting, stopping, and removing and instance of the resource type on at least one node of said clustered computer system. See page 1-8, Section 1.5:

A data service is registered with Sun Cluster using the hareg(1M) program.

...
When a data service is first registered with Sun Cluster, its initial state is "off." The hareg(1M) program is used to **transition a data service between the "off" and "on" states.**

...
Before **unregistering** a data service, the system administrator first must transition the data service into the "off" state by calling hareg(1M).
[emphasis added]

Sun Cluster 2.2 does not expressly disclose *receiving* a selection of a programming language, automatic generation, or *customized scripts*. However, in an analogous environment, Richburg teaches automatic generation of customized scripts.

See column 7 lines 37-40:

In summary, the present invention provides a method and means for the **automatic generation** of text script files which are used to realize complete or partial computer applications from a **specified user requirement**.

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Richburg also teaches receiving a selection of a programming language. See column 20

lines 25-33:

The Expert System can be applied to the process of writing computer programs, regardless of the user's program design style or the programming languages used. It is independent of the types and purposes of the input files it can be used with, and is independent of the types and purposes of the output files that it produces; i.e., it is equally able to **produce program code files in any language** (i.e., Cobol, Fortran, C, Pascal, etc.), and their associated job control files, make files, etc. [emphasis added]

Note that a selection must be received; otherwise the system would only be able to produce program code files in a single language. It would have been obvious to one of ordinary skill in the art at the time the invention was made to use Richburg's teaching of automatic generation in any language with the resource types of Sun Cluster 2.2. One of ordinary skill would have been motivated to utilize complex, standardized software scripts in a manner easily used and applied by a wide class of users (Richburg column 3 lines 57-59).

Sun Cluster 2.2 does not expressly disclose *wherein the user-supplied information includes at least one of a resource type name, a vendor ID, an indication of whether the target resource type is failover or scalable, an indication of whether the base application is network aware, and a selected language for the generated code*. However, in an analogous environment, Dulaney teaches that configuration files in a cluster environment can store information regarding failover capability. See column 1 lines 50-54:

In present day network systems, failover services are created manually by system administrators and are based on explicit **failover configuration information** that is typically stored in configuration files on local storage of each server. (emphasis added)

It would have been obvious to one of ordinary skill in the art at the time the invention was made to use Dulaney's teaching of configuration file information with Sun Cluster

2.2's configuration file. One of ordinary skill would have been motivated to provide information regarding failover services as is known in art (Dulaney column 1 lines 50-51).

As per claim 2, Sun Cluster 2.2 discloses:

The method of claim 1, wherein said application is a highly available application (page 1-1 paragraph 1).

As per claim 3, Sun Cluster 2.2 discloses:

The method of claim 1, wherein said application is a scalable application (page 1-3 Section 1.3.1 paragraph 3).

As per claim 4, Sun Cluster 2.2 discloses:

The method of claim 1, wherein said resource type performs at least one of the following:

a. starts execution of said application (page 1-2 Section 1.2 paragraph 2);

As per claim 5, Sun Cluster 2.2 discloses:

The method of claim 1, wherein said code of said at least one resource type is a source code (page 1-1 Section 1.1 paragraph 1).

As per claim 7, Sun Cluster 2.2 discloses:

The method of claim 1, wherein said user specified characteristics comprise information on whether said resource type is failover or scalable (page 1-3 Section 1.3.1 paragraph 1).

As per claim 8, Sun Cluster 2.2 discloses:

The method of claim 1, wherein said user specified characteristics comprise information on whether said application is network-aware or non network-aware (page 2-9 Section 2.3 paragraph 1).

In regard to claim 9, the above rejection of claim 1 is incorporated. Sun Cluster 2.2 discloses a user interface (page 1-1 Section 1.1 paragraph 1). Sun Cluster 2.2 does not expressly disclose a graphical user interface (GUI). Richburg teaches the use of a graphical user interface (column 6 lines 51-61). It would have been obvious to one of ordinary skill in the art at the time the invention was made to use Richburg's GUI with the user interface of Sun Cluster 2.2. One of ordinary skill would have been motivated to utilize a simple point and click interface to generate sophisticated programs (Richburg column 6 lines 59-61).

As per claim 10, Sun Cluster 2.2 discloses:

The method of claim 1, wherein said generating of said code further comprises providing said user with an ability to modify said generated code (See page 1-1, Section 1.1, paragraph 1 as cited above).

As per claims 11-15, 17, 18, and 20, Sun Cluster 2.2 discloses a computer readable medium (page 1-4 Section 1.3.2. File systems are inherently implemented on a computer readable medium. File systems provide a logical view to data storage and organization on physical media.). Sun Cluster 2.2 also discloses the use of a user interface (page 1-1 Section 1.1 paragraph 1). All other limitations have been addressed in the above rejection of claims 1-5, 7, 8, and 10, respectively.

As per claims 19 and 29, all further limitations have been addressed in the above rejection of claim 9.

As per claims 21-25, 27, 28, and 30, Sun Cluster 2.2 discloses a computer system (page "v", Preface, paragraph 1). Sun Cluster 2.2 also discloses the use of a user interface (page 1-1 Section 1.1 paragraph 1). All other limitations have been addressed in the above rejections of claims 1-5, 7, 8, and 10, respectively.

5. Claims 6, 16, and 26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sun Cluster 2.2, Richburg, and Delaney as applied to claims 1, 11, and 21, respectively above, and further in view of "Application Packaging Developer's Guide" by Sun Microsystems, Inc. (hereinafter referred to as "APDG").

As per claim 6, Sun Cluster 2.2 does not expressly disclose arranging the generated code in to a package.

However, in an analogous environment, APDG teaches that software can be arranged into a collection of files and directories required for a software product after completion of the development of the application code (page 2 paragraph 1).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to assemble Sun Cluster 2.2's application code into APDG's package. One of ordinary skill would have been motivated to easily transfer the application code for mass production, distribution and installation.

As per claims 16 and 26, all further limitations have been addressed in the above rejection of claim 6.

Conclusion

6. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37

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CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to J. Derek Rutten whose telephone number is (571)272-3703. The examiner can normally be reached on M-F 7:00-3:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Tuan Q. Dam can be reached on (571)272-3695. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

jdr



TUAN DAM
SUPERVISORY PATENT EXAMINER